

FACT SHEET FOR NPDES PERMIT WA-003080-5
FACILITY NAME: BROOKS MANUFACTURING CO.

GENERAL INFORMATION	
Applicant	Mr. John Ferlin, President (360) 733-1700
Facility Name and Address	BROOKS MANUFACTURING CO. 2120 Pacific Street Bellingham, WA 98227-0007 Whatcom County
Facility Contact	Mr. Jeff Clark, Environmental Coordinator (360) 733-1700
Type of Facility	Pressure Wood Treating
SIC Code	2491
Discharge Location	Drainage Ditch to Whatcom Creek (to Bellingham Bay) Latitude: 48° 45' 30" N Longitude: 122° 27' 30" W
Water Body ID Number	WA-01-3110

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the Wastewater Discharge Permit Program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty (30) days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A—Public Involvement of the fact sheet for more detail on the public notice procedures).

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

Brooks Manufacturing Co. is a wood processing company, located in Bellingham, Washington, at the corner of Iowa and Pacific Streets. The site covers 13.5 acres. They have been in operation since the 1920's. The facility was originally permitted in 1970-1975 to discharge industrial wastewater. The permit contained a surface water discharge limit provision for the process wastewater which stated "no visible oils and no detectable phenols."

A new wood treating facility was constructed at this site in 1982 to comply with environmental regulations that existed at the time for both the state and USEPA. The permit dated 1984-1989 included treating plant runoff discharge to the City of Bellingham Wastewater Treatment Plant (WWTP) with total oil and pentachlorophenol (PCP) limits. The facility installed an evaporation tower around 1984.

During the last permit cycle (1993-present), Brooks Manufacturing Co. directed all site stormwater except for roof and parking lot runoff, to the southwest corner of the property where it is discharged to the drainage ditch. This drainage ditch passes under Iowa Drive via a culvert and is joined downstream by drainage from Fever Creek. The ditch water then flows south via a culvert pipe several hundred feet to where it discharges to Whatcom Creek.

INDUSTRIAL PROCESS

The principal product manufactured at the Brooks facility is treated utility pole crossarms. The company also does custom wood drying and surfacing, including resaw, dry kiln, planing mill, boring machines, and wood treatment operations.

The wood treating facility is located approximately in the middle of the Brooks property, and includes oil storage tanks, diesel fuel storage tanks, vessels, pumps, and piping. The dissolving tank has not been used since 1996 when Brooks discontinued use of Penta blocks.

The wood is treated in a 6-foot diameter by 82-foot long pressure retort vessel. The treating oil is heated by steam in a heat exchanger and the condensate is returned to the boiler. A vacuum is drawn with a vacuum pump. Waters removed from that process (which may be contaminated with PCP) are evaporated. Heat for evaporation is supplied by waste heat or fresh steam. The tank farm and retort areas are now roofed.

Drainage from the concrete track pad, oil receiving and refueling pad is discharged to two API oil/water separators with oil returned to the work tank and water to the evaporative system. Boiler blowdown, kiln condensate, and sanitary wastes are discharged to the City of Bellingham WWTP.

Best management practices to keep PCP out of the stormwater discharge include paving, roofed storage for treated product, oil/water separators, and two sedimentation ponds, one lined and one unlined.

The hazardous chemicals which are currently used/stored on the facility include: diesel oil, Pentacon® 40 (40% PCP and 60% random solvent), treating oil (5% PCP in diesel oil), diesel fuel, machine shop waste oil, and anti-freeze. PCP arrives in solution as Pentacon® and is stored in the treating plant containment area. It is used as 5% Pentacon® and 95% #2 diesel mix.

DISCHARGE OUTFALL

Stormwater from the wood storage areas and treatment areas flows to the sedimentation pond in the southwest corner of the property. The lined pond discharges stormwater to a drainage ditch that is tributary to Whatcom Creek. The discharge from the sedimentation pond is designated as Outfall #001. The drainage ditch flows underground through an industrial area and discharges into Whatcom Creek. The discharge point from the stormwater drainage ditch into Whatcom Creek is designated as Outfall #002.

There were two points of compliance in the previous permit because a mixing zone was granted for PCP in the drainage ditch (referred to in the first permit as Fever Creek). The surface water quality-based PCP limit of 9 µg/L was set at Outfall #002, where the drainage ditch discharged into Whatcom Creek. The calculated limit of 50 µg/L, taking into account the mixing zone for PCP, was enforced at the discharge from the sedimentation pond, Outfall #001.

This permit sets an interim PCP performance-based limit of 20 µg/L at Outfall #001, and a final PCP monthly average limit of 9 µg/L with a daily maximum limit of 20 µg/L, effective July 1, 2004.

PERMIT STATUS

The previous permit for this facility was issued on June 30, 1993. The permit was modified on February 27, 1997, to reflect the consolidation of discharge points, the construction of the sedimentation pond, and the Settlement Agreement (PCHB 93-190) modifying the final PCP effluent limit from 9 µg/L to 50 µg/L. A mixing zone within the drainage ditch (referred to in that agreement as Fever Creek) was granted based on an approved AKART analysis, relocation of the discharge pipe, and construction of the lined sedimentation basin.

The requirements for Acute Toxicity Testing and the Dioxin and Furan Study were postponed until the next permit cycle when the BMPs would be fully implemented. Brooks did complete one set of acute and chronic biomonitoring on their effluent in September 1996. The effluent passed the initial toxicity testing but a full series was not conducted. More testing is required during this permit cycle to verify the stormwater discharge is not toxic to aquatic life.

The previous permit placed effluent limitations on oil and grease, Pentachlorophenol (PCP), TSS, and pH.

An application for permit renewal was submitted to the Department on November 20, 1997, and accepted by the Department on November 24, 1997. The permit was administratively extended on June 19, 1998, effective June 30, 1998.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received a Water Quality NPDES permit compliance inspection on June 03, 2002.

During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department, permit required submittals, and inspections conducted by the Department.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following regulated parameters:

Table 1: Wastewater Characterization (Years 2001-2002)

Parameter	Concentration Range, Average			
	Outfall #001		Outfall #002	
	Range	Average	Range	Average
Polynuclear Aromatic Hydrocarbons (PAHs) µg/L	0.10-2.41	0.94	---	---
Oil and Grease mg/L	0.0*- 6.0	*	---	---
Pentachlorophenol µg/L	0.24-13.0	6.71	0-2.09	1.19
Total Suspended Solids mg/L	7.0-147.0	26.4	---	---
pH (standard units)	6.76-7.57	7.03	6.08-7.09	6.78
*Out of the 11 samples taken, one had a value of 6, the other 10 were below detection or non-detect.				

Brooks conducted one set of acute and chronic tests in September 1996. The tests showed no toxicity for this one monitoring event. Because one set of tests is inadequate to support a conclusion of a nontoxic discharge, additional tests are required in this permit cycle.

SEPA COMPLIANCE

This is an existing facility and therefore SEPA is not required.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). Each of these types of limits is described in more detail below.

The effluent constituents were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Some pollutants are not controllable at the source, are not listed in regulation, or do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances, the permit does not authorize discharge of the nonreported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limits have been developed for the following pollutants found in stormwater runoff from treated wood storage areas: total suspended solids (TSS), oil and grease; and polynuclear aromatic hydrocarbons (PAH). Limits on oil and grease represent the degree of effluent pollution reduction attainable by the application of best conventional pollutant control technology (BCT). Oil and grease limits reflect the effluent quality that can be obtained through the use of a properly operated and maintained oil/water separator.

The proposed interim effluent limit for PCP of 20 µg/L is based on the past two years' performance. The interim limit is in place for a term of 12 months to give the Permittee time to further implement BMPs and assess their effectiveness. The proposed final PCP limit of 9 µg/L is based on the aquatic life Water Quality Criteria calculated with a pH of 7.08, the two year average reported from Brooks Manufacturing Co. The daily maximum limit of 20 µg/L is based on performance and is in effect as a final limit because BMPs and stormwater changes are still being implemented at this facility.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state.

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the water quality standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

The proposed final PCP limit of 9 µg/L is based on the aquatic life Water Quality Criteria calculated with a pH of 7.08, the two-year average reported from Brooks Manufacturing Co. The daily maximum limit of 20 µg/L is based on performance and is in effect as a final limit because BMPs and stormwater changes are still being implemented at this facility. These limits are applied at the point of stormwater discharge into the drainage ditch, tributary to Whatcom Creek. No dilution zone is provided in the drainage ditch.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

ANTIDEGRADATION

The state of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on Washington State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

A mixing zone was granted in the previous permit because AKART was determined to be, at that time, best management practices (BMPs). Since the issuance of that permit, AKART for treating PCP in wood treater's stormwater is GAC or equivalent treatment.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to a drainage ditch (referred to in the previous permit as Fever Creek) which discharges to Whatcom Creek, then to Bellingham Bay. Whatcom Creek is designated as a Class A Freshwater- receiving water. Significant nearby non-point sources of pollutants include stormwater from road runoff and light industrial activities. Characteristic uses of Class A waters may include the following:

water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all potential uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Pentachlorophenol	Surface Water Quality Criteria - 9 µg/L
Pentachlorophenol	Human health criteria (organisms only) - 8.2 µg/L
pH	6.5 to 8.5 standard units, with a human caused variation of less than 0.5 units within that range.
Toxic Compounds	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)

The available data from Outfall #001 indicates that Brooks Manufacturing Co. needs to further implement stormwater BMPs at that outfall to consistently meet the surface water quality criteria.

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutant concentrations in the proposed discharge should not exceed water quality criteria with technology-based controls and BMPs in place.

Toxic Pollutants—Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

The following toxic compounds were determined to be present in the discharge:

Pentachlorophenol

The proposed permit contains interim and final limits for Pentachlorophenol as required by Chapter 173-201A WAC. The interim limit is based on existing demonstrated performance. The final limit is based on surface water quality criteria.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Acute toxicity tests measure mortality as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests are providing an indication of the potential lethal effect of the effluent to organisms in the receiving environment.

Accredited WET testing laboratories have the proper WET testing protocols, data requirements, and reporting format. Accredited laboratories are knowledgeable about WET testing and capable of calculating an NOEC, LC₅₀, EC₅₀, IC₂₅, etc. All accredited labs have been provided the most recent version of the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*, which is referenced in the permit. Any Permittee interested in receiving a copy of this publication may call the Ecology Publications Distribution Center 360-407-7472 for a copy. Ecology recommends that permittees send a copy of the acute or chronic toxicity sections(s) of their permits to their laboratory of choice.

An effluent characterization for acute and chronic toxicity was conducted during the previous permit term. In accordance with WAC 173-205-060, the Permittee must repeat this effluent characterization because only one test was conducted at that time and toxicity testing is required during each permit cycle.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge will be potentially undergoing technology-based upgrades based on a Department order or permit. The human health criteria (taken from the NTR) for organisms only is 8.2 ug/L. Since the ditch is not a drinking water source, the human health criteria for drinking water will not be applied at this time, to the discharge. Past monitoring data indicate that the human health criteria for organism consumption has been continuously met at Whatcom Creek (Outfall #002).

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has been unable to determine at this time the potential for this discharge to cause a violation of sediment quality standards. If the Department determines in the future that there is a potential for violation of the sediment quality standards, an order will be issued to require the Permittee to demonstrate that either the point of discharge is not an area of deposition or, if the point of discharge is a depositional area, that there is not an accumulation of toxics in the sediments.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED June 30, 1993

Parameter	Existing Limits #001	Existing Limits #002	Proposed Limits (#001)
Pentachlorophenol	50 µg/L	9 µg/L	Interim: 20 µg/L Final: 9 µg/L monthly average, 20 µg/L daily maximum
Oil and grease	10 mg/L	N/A	10 mg/L and no visible sheen
Total Suspended Solids	50 mg/L	N/A	50 mg/L
pH (standard units)	Between 6.0-9.0		Between 6.5-8.5

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring. The past permit required monthly monitoring, during the months of September through May. The proposed permit requires monthly monitoring year round (12 months of the year) during qualified rain events. The Permittee is not required to sample if there is no qualifying rain event during the calendar month.

LAB ACCREDITATION

With the exception of certain parameters, the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NONROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for nonroutine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the Solid Waste Plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

DIOXIN AND FURAN ANALYSIS

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee conduct a Dioxin and Furan Analysis of the discharged stormwater at Outfall #001, to determine if they are present and, if present, at what levels.

TREATMENT SYSTEM OPERATING PLAN

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system [40 CFR 122.41(e)] and WAC 173-220-150 (1)(g). An Operation and Maintenance Manual will be submitted as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150) as necessary. It has been determined that the implementation of the procedures in the Treatment System Operating Plan is a reasonable measure to ensure compliance with the terms and limitations in the permit.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary, to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this proposed permit be issued for a term of five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

- 1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.
- 1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
- 1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.
- 1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.
- 1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Washington State Department of Ecology.

- 1994. Permit Writer's Manual. Publication Number 92-109

Permit Application submitted by Brooks Manufacturing Co., November 17, 1997

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the Brooks Manufacturing Co. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on September 4, 2001, and September 11, 2001, in the *Bellingham Herald* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department published a Public Notice of Draft (PNOD) on January 15, 2003, in the *Bellingham Herald* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Ms. Tricia Miller
Water Quality Permit Coordinator
Washington State Department of Ecology
Northwest Regional Office
3190 - 160th Avenue SE
Bellevue, WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy, and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, at 425-649-7201, or by writing to the address listed above.

This permit and fact sheet were written by Lori LeVander.

APPENDIX B—GLOSSARY

Acute Toxicity—The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART—An acronym for “all known, available, and reasonable methods of treatment.”

Ambient Water Quality—The existing environmental condition of the water in a receiving water body.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)—Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅—Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of a treatment facility.

Chronic Toxicity—The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)—The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling—A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling—A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity—Clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous Monitoring—Uninterrupted, unless otherwise noted in the permit.

Critical Condition—The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor—A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction, e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report—A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample—A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)—The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Mixing Zone—An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)—The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/state permits issued under both state and federal laws.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)—A calculated value five times the MDL (method detection level).

Responsible Corporate Officer—A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)—Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset—An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C—CALCULATIONS

APPENDIX D—RESPONSE TO COMMENTS